

Appl. No. 10/713,178

Amtd. Dated March 31, 2006

Reply to Office Action of February 7, 2006

REMARKS

This is a full and timely response to the final Office action mailed February 7, 2006. Reexamination and reconsideration in view of the foregoing amendments and following remarks is respectfully solicited.

Claims 1-17 and 19-26 remain pending in this application, with Claims 1, 15, and 26 being the independent claims. No claims have been amended herein, and no new matter is believed to have been added.

Rejections Under 35 U.S.C. § 103

Claims 1-17 and 19-26 were variously rejected under 35 U.S.C. § 103 as allegedly being unpatentable over JP09057482, JP359087999, GB 1,334,772, and U.S. Patent Nos. 2,074,629 (Ungar), and 5,151,095 (Teeple, Jr.). These rejections are respectfully traversed.

Independent Claim 1 relates to a hand-held laser fusion welding assembly for treating a workpiece that includes a hand-graspable main body, a nozzle coupled to the main body and through which laser light may pass and a laser reflection shield coupled to, and at least partially surrounding, either the nozzle or the main body, and recites, *inter alia*, the laser reflection shield constructed at least partially of a material that reflects at least a portion of the laser light that passes through the nozzle aperture and is reflected by the workpiece, and configured such that no section thereof surrounds any portion of the laser light once the laser light passes through the aperture.

As was noted in Applicants' previous response, Ungar discloses an electric hand tool, such as a soldering iron, that includes a flange (3). As disclosed in col. 1, ll. 46-55, the flange (3) is used to elevate an end of the tool handle (2) and further serves as a heat barrier. Although the flange (3) does not surround the heat emanating piece of the tool, it is noted that the tool does not emit laser light, but merely emanates heat. Thus, it is clear that the flange (3) is not constructed at least partially of a material that reflects at least a portion of the laser light, as is recited in independent Claim 1.

Furthermore, Ungar should not even be considered in this clearly flawed attempt at establishing a *prima facie* case of obviousness, as it is not even analogous art. As the

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Examiner is no doubt aware, before a reference can be relied upon as a basis for a rejection, the reference must either be (1) in the field of the applicant's endeavor or, if not, (2) reasonably pertinent to the particular problem with which the inventor was concerned. In re Oetiker, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). Here, it is clear that an electrical hand-held tool, such as the disclosed soldering iron, is not even remotely close to the field of endeavor of the instant claims, namely a hand-held laser welding wand. Moreover, the device disclosed in Ungar is not even remotely pertinent to the particular problem that the inventors were concerned with, namely shielding an operator from reflected laser light. A less than ordinarily skilled artisan, let alone an ordinarily skilled artisan, would not even consider looking at the field of soldering irons to try and solve the problem of protecting a laser welding operator from reflected laser light.

Nonetheless, even if the tool disclosed on Ungar was somehow believed analogous, as was clearly stated previously, the prior art of record in the instant application would suggest providing a shield that completely surrounds the emitted laser light. Specifically, JP09057482 discloses a YAG laser torch having a nozzle, and further including a shield that completely surrounds the laser light once it passes through the nozzle, and GB 1,334,772 discloses a laser device having a shield that completely surrounds the laser light once it passes through the nozzle. Furthermore, none of the other citations of record disclose, or even remotely suggest, a laser reflection shield constructed at least partially of a material that reflects at least a portion of the laser light that passes through the nozzle aperture and is reflected by the workpiece, and configured such that no section thereof surrounds any portion of the laser light once the laser light passes through the aperture, as is recited in independent Claim 1.

Thus, even if one were to combine the teachings of Ungar with those of either, or both, JP09057482 and GB 1,334,772, the combination would suggest providing a laser reflection shield on a hand-held tool that completely surrounds the laser light once it passes through the nozzle.

The Examiner somehow believes the above line of argument is against each of the references individually. This, of course, is simply a fallacious response. In order to

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refute a clearly erroneous combination of references, each must first be analyzed individually. Then, based on this individual analysis, the clear suggestion of what the individual teachings, when combined together, would result in is then provided. As noted above, based on the individual teachings of each reference, the combination would suggest a laser reflection shield on a hand-held tool that completely surrounds the laser light once it passes through the nozzle.

As regards independent Claim 15, this claim relates to a laser reflection shield for reflecting laser light that includes a clamp adapted to mount on a hand-held laser welding wand and a shield plate coupled to the clamp and recites, *inter alia*, the clamp having at least a front side and a back side and selectable from a plurality of differently shaped clamps, and the shield plate constructed at least partially of a material that reflects at least a portion of the laser light and selectable from a plurality of shields.

The Office action alleges that JP359087999 discloses replaceable shields. However, the disclosed shields (12c) form part of a gas shielding chamber 12, and are not disclosed as being useful for shielding of laser light. Moreover, Applicants submit that this citation, along with all the other citations of record, fails to disclose a clamp that is selectable from a plurality of differently shaped clamps, and that the shield plate is selectable from a plurality of shields, as is recited in independent Claim 15.

In the Office action the Examiner contends that just because the relied upon reference discloses only one size of a clamp this is not a problem because “[c]lamps are very well known and claim selection based on shape is well known and selections of clamps are available in most hardware stores.” The Office action further alleges that the use of replaceable shields would be obvious because it is old and well-known. If indeed the use of replaceable clamps and shields, in combination, is so well known, then the Examiner should be able to provide some evidence in support of this supposition. In this regard, Applicants seasonably traverse this statement of what is allegedly well-known, and submits a demand for evidence of the same. See M.P.E.P. § 2144.03.

With respect to independent Claim 26, this claim is directed to a hand-held laser fusion welding assembly for treating a workpiece that includes a main body, a nozzle, a laser reflection shield, and recites, *inter alia*, one or more proximity sensors coupled to

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the laser reflection shield, each proximity sensor configured to sense a proximity of the laser reflection shield to the workpiece and operable, in response thereto, to supply proximity signals representative thereof.

The Office action alleges that Tepple, Jr. discloses "well known sensor means in a shield," and alleges that "the use of well known sensors in any shield would have been obvious to provide feedback to the user for improving a work task." However, Applicants must again reiterate that Tepple, Jr. simply teaches a shield (10) that includes an insulating layer (13) having resistive properties that change when exposed to laser radiation, and that can be detected by an alarm device (25). Thus, Tepple, Jr. merely teaches providing some type of sensing device within a shield that will provide a signal indicating that the shield is being exposed to laser radiation. Nowhere does Tepple, Jr. disclose, or even remotely suggest, at least one or more proximity sensors coupled to the laser reflection shield, each proximity sensor configured to sense a proximity of the laser reflection shield to the workpiece and operable, in response thereto, to supply proximity signals representative thereof, as recited in independent Claim 26.

Indeed, using proximity sensors, and the functions implemented thereby, is not even remotely close or suggestive of the principle on which the device of Tepple, Jr. operates. Thus, modifying the disclosed device would completely change the principle of operation of the device, which is clearly inapposite to obviousness. It is well-settled that a proposed modification or combination that changes the principle of operation of the prior art device being modified is insufficient to establish *prima facie* obviousness. In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). It is additionally very well-settled that just because one or more references can be combined or modified does not render proposed modification obvious unless the prior art also suggests the desirability of the modification. In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Here, there is clearly no suggestion whatsoever of the desirability of modification proposed by the Examiner.

In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the § 103 rejections.

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Conclusion

Based on the above, independent Claims 1, 15, and 26 are patentable over the citations of record. The dependent claims are also submitted to be patentable for the reasons given above with respect to the independent claims and because each recite features which are patentable in its own right. Individual consideration of the dependent claims is respectfully solicited.

The other art of record is also not understood to disclose or suggest the inventive concept of the present invention as defined by the claims.

Hence, Applicant submits that the present application is in condition for allowance. Favorable reconsideration and withdrawal of the objections and rejections set forth in the above-noted Office action, and an early Notice of Allowance are requested.

If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone the undersigned attorney at the below-listed number.

If for some reason Applicant has not paid a sufficient fee for this response, please consider this as authorization to charge Ingrassia, Fisher & Lorenz, Deposit Account No. 50-2091 for any fee which may be due.

Respectfully submitted,

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